- Atlantic Intracoastal Waterway
  - ✓ North River
  - ✓ North Landing River
- SAV Transects
  - ✓Sincock 1958-1964
  - ✓ECSU 2006
- SAV mapping ECSU 202

North Landing River Dredging History

- Wilmington District
  - 8.8 million cubic yards (MCY) 1925 -1965
  - 1925-1946 - Frequent Events
    - 16, ~ 0.5 MCY events in 22 years 1925-46
  - 1947-Present - Very Infrequent
    - 1 event (1965) ~ 1 MCY since 1946
- Norfolk District
  - 3.5 MCY 1947 -1995
  - 10 ~ 0.3 MCY events in 48 years
  - Last event in 1995

- Disposal Method
  - Mostly unconfined open water disposal

North Landing River Sediment Types

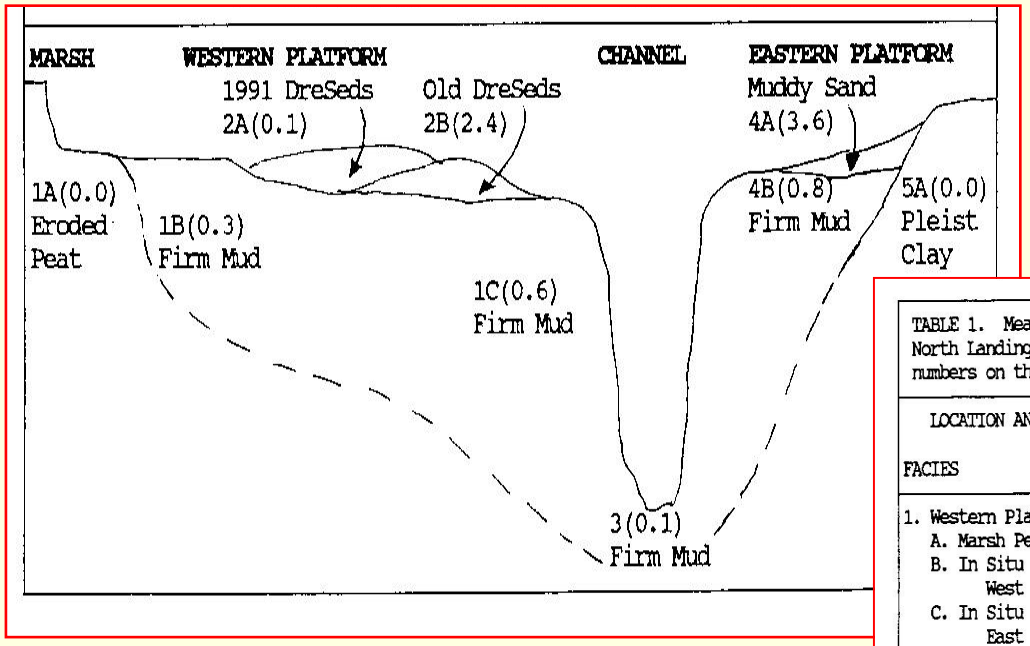

TABLE 1. Mean composition of major sediment types occurring within the North Landing River study area. The facies numbers correspond to the numbers on the schematic profile drawn below.

LOCATION AND SEDIMENT TYPE		SEDIMENT COMPOSITION				SAND
FACIES	N	SAND %	SILT %	CLAY %	ORGANIC %	CLAY RATIO
1. Western Platform						
A. Marsh Peat	1	0.7	46.1	35.6	17.6	0.0
B. In Situ Firm Mud West of Dredge Disposal	3	9.0	49.2	30.2	11.6	0.3
C. In Situ Firm Mud East of Dredge Disposal	8	16.7	48.3	25.8	9.2	0.6
2. Dredged Material						
A. New Dredged Sed/91 Proj.	16	10.4	49.6	30.3	9.7	0.3
B. Old Dredged Sed/Old Proj.	8	44.9	30.0	18.6	6.5	2.4
3. Channel						
A. Mud Dredged in 91 Proj.	3	4.4	51.3	30.8	13.5	0.1
B. Mud Outside of 91 Proj.	3	22.7	42.1	22.1	13.1	1.0
4. Eastern Platform						
A. Winnowed Surface Sandy Mud	2	53.5	25.5	14.8	6.2	3.6
B. Subsurface Firm Mud	4	25.2	39.6	29.8	5.4	0.8
5. Pleistocene Sediments						
A. Basal Clay	2	Very Tight, Gray to Orange Clay				0.0

Sedimentation and Sediment Quality in the North Landing River, Currituck Sound Estuarine System, NC and VA
Riggs et. al, 1993 APES Report # 92-22

Findings from Riggs 1993

- Sediment Characteristics
  - North River AIWW cut into organic rich mud sediment.
  - Maintenance materials are fine grained.
  - Dredged material disposal has produced shallow-water shoal features that are impacted by wave action

Findings from Riggs 1993... Continued

- Could open-water disposal of dredged material from channel maintenance in North Landing River contribute to the long-term environmental degradation in Currituck Sound?
  - Beyond scope of the study
  - Implications concerning open water disposal of organic rich, fine dredged material and water quality
  - Set ground work for future studies

Current Operations ?

- No ongoing AIWW dredging in the Currituck Sound vicinity
- Significant need for future dredging is expected
- Corps Operations Division in Wilmington and Norfolk are beginning to develop environmentally sustainable dredging and disposal plans for the Currituck Sound Vicinity.
- Wilmington District plans to conduct sediment testing in the Currituck vicinity AIWW in 2007

So what does that mean to us?

- This provides an opportunity for the Currituck Study Team to provide input to DMMP
  - In fact the Currituck PMP includes plans to consider alternative disposal practices
  - It is likely that Currituck vicinity dredging will be needed prior to completion of our study
  - Since It is unlikely that open water disposal will be used, our help in developing environmentally sound alternatives will be of great value

Potential Alternatives

- No Action
  - Not an EQ plan
  - Environmental Consequences
    - Continued prop-wash
    - Emergency could cause implementation of undesirable methods
- Various dredging and disposal scenarios
  - Revised disposal windows
  - Avoidance of particularly sensitive areas
  - Various confined disposal options

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